

# **Water Markets, Management and Pricing**

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# What are water 'markets'?

- **Management tools for scarce surface water and groundwater systems**
  - Depend on formal and informal rules as well as good governance
- **Ways to change where and when water is used to increase its value**
  - Cost-effective way of reaching management goals
- **Voluntary transactions between willing buyers and sellers**
  - Should increase value for all participants

# Water market basics

- **Why do we need water markets?**
  - Drought mitigation, aquifer depletion, instream flow concerns, water quality, encouraging innovation
- **Who takes part in water markets?**
  - Farmers, tribes, businesses, irrigation districts, municipalities & government agencies, water trusts
- **How common are water markets?**
  - Throughout the U.S. West, but also S America, Europe, Australia, NZ, Middle East, Africa, Asia (India, China, Pakistan)

# Water market basics

- **What happens in a water market?**
  - Financial component → Negotiation and price discovery
  - Regulatory component → Permitting and compliance
- **Who operates and oversees water markets?** This varies enormously, based on local rules and regulations
  - Water users associations, government agencies (local, state, and national), private industry, PPPs, and in some cases, no-one
  - Transactions may be formal or informal
- **What's actually traded in a water market?** Often not water itself
  - Rights to water, irrigated land, wells; derivatives; technology choice

# Common misconceptions about water markets

## Water markets . . .

- Often aren't markets, but are bilateral contracts or bulletin boards
- Are not a new idea
  - Have been around for at least 1000 years
- Work with all kinds of water rights
  - Including appropriative, correlative, and other rights
- Are common, and provide value, between agricultural water users
  - Not just agricultural-urban and agricultural-environmental transfers

# Common misconceptions about water markets

## Water markets . . .

- May or may not be neutral across participants
  - Perceived or actual inequity can limit effectiveness
- Shouldn't need large government spending to operate
  - Voluntary transactions between buyers and sellers
- Include regulatory and financial components that can be unbundled
  - Bundling can lead to lack of trust, particularly in nascent markets

# Public policy perspective

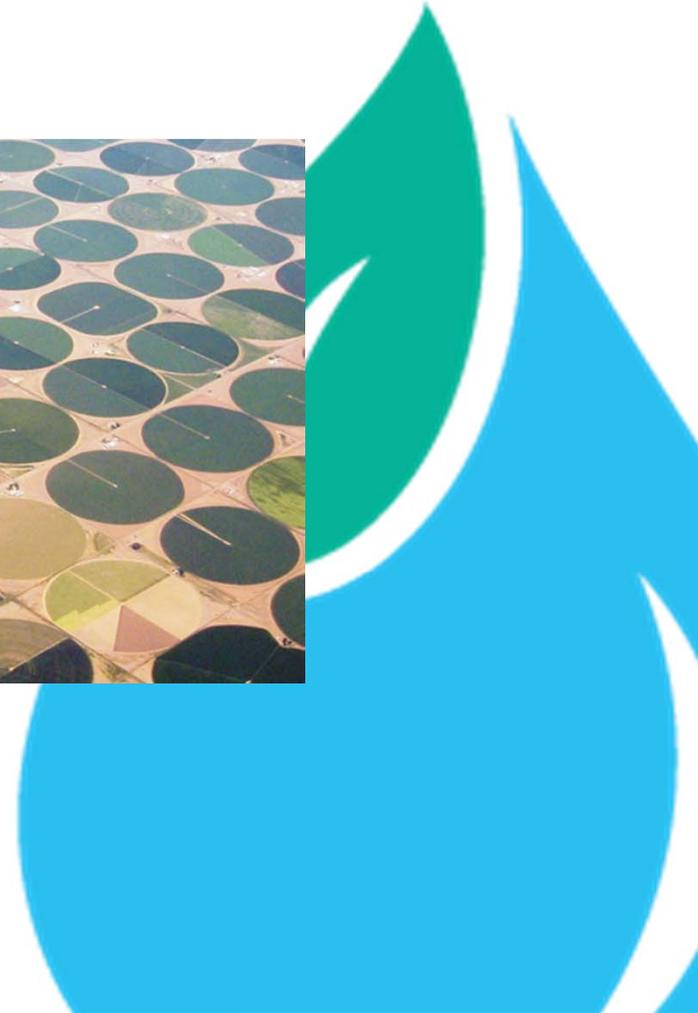
- Water markets provide an important drought mitigation and risk management tool for agriculture
- Governance must be adequate; markets won't fix existing governance issues
- Monitoring and enforcement costs are much larger than is generally acknowledged (e.g. meter tampering is common worldwide)
- Most formal markets build on existing informal transactions
- Informal transactions are generally not reported

# Design summary

- Water market design affects efficiency and equity
- Effective design responds to how agricultural producers make water use decisions
- Groundwater markets are generally much more complex than surface water markets
- Perceived fairness and financial privacy are underappreciated obstacles in water markets; trust is vital

# Current trends and outlook

- Water transaction prices are decreasing from historic highs
- Active dry-year leasing in agricultural and non-agricultural sectors
- Local informal market activity driven by drought and water scarcity
- Interest in water markets driven by state regulatory activity in areas without informal markets in place



**Thank you!**